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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,589	02/10/2000	Osamu Hamamoto	35.C14248	4095

5514 7590 07/20/2004

FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER
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MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 07/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/501,589

Applicant(s)

HAMAMOTO, OSAMU

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to Claims 1 – 12 have been considered but are moot in view of the new ground(s) of rejection.
2. The Examiner accepts the Applicant's changes to the title and the drawings in the amendment filed 14 May 2004.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 – 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami in view of Meyers.
5. For **Claims 1 and 6**, Murakami discloses, as shown in figures 1 – 5, 7a, and 8 – 10 and as stated in columns 2 (lines 23 – 41 and 54 – 68), 3 (lines 1 – 61), 4 (lines 1 – 33), and 5 (lines 3 – 43), an image input apparatus comprising a photoelectric conversion device (patterned and layered semiconductor layer – 3 – of figure 5d) including photoelectric conversion areas (patterned and divided semiconductor layer – 3 – of figure 5d) and a light guide member (fiber optic plate – 1 – of figure 3) for guiding light to be incident on the photoelectric conversion areas included in the photoelectric conversion device, wherein said light guide member (1) includes

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connection/transmission member (first and second electrodes – 2 and 4, respectively – of figures 1, 5d, and 7a) electrically connected to the photoelectric conversion device (3) so as to transmit electrical signals between the photoelectric conversion device (see column 5, lines 28 – 31) and the light guide member (1), wherein the fiber optic plate (1) and the photoelectric conversion device are bonded together using adhesive (15; see figure 6).

However, Murakami does not disclose a plurality of photoelectric conversion devices each of which includes a two-dimensional array of photoelectric conversion areas, transmitting an electrical signal between said photoelectric conversion devices, an image processing circuit which processes an image signal output from said photoelectric conversion device, or a display device which displays the signal from said image processing means.

In regards to the image processing circuit and the display device, **Official Notice** is taken that both the concepts and advantages of including an image processing means and a display means are well known and expected in the art. It would have been obvious to include an image processing means for noise reduction, image zoom, image focus, image arrangement, etc. and a display means to view the finished image for preview or entertainment.

On the other hand, Meyers also discloses an image input apparatus comprising a photoelectric conversion device. More specifically, Meyers discloses, as shown in figures 1A, 1B, and 6 and as stated in columns 4 (lines 27 – 31 and 49 – 47) and 5 (lines 31 – 40), a plurality of photoelectric conversion devices (sub-group of photodetectors 22) each of which includes a two-dimensional array of photoelectric conversion areas (24) and also discloses transmitting an electrical signal (by means of data bus 50, row decoder 60, and column decoder 62) between said photoelectric conversion devices (24). As stated in column 3 (lines 51 – 55), at the time the

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invention was made, one with ordinary skill in the art would have been motivated to include a plurality of photoelectric conversion devices and transmitting an electrical signal between said photoelectric conversion devices, as taught by Meyers, in the image input apparatus, disclosed by Murakami, as a means to provide a large high-resolution image input apparatus. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have a plurality of photoelectric conversion devices and transmitting an electrical signal between said photoelectric conversion devices, as taught by Meyers, in the image input apparatus, disclosed by Murakami.

6. For **Claims 11 and 12**, Murakami discloses, as shown in figures 1 – 5, 7a, and 8 – 10 and as stated in columns 2 (lines 23 – 41 and 54 – 68), 3 (lines 1 – 61), 4 (lines 1 – 33), and 5 (lines 3 – 43), an image input apparatus comprising a photoelectric conversion device (patterned and layered semiconductor layer – 3 – of figure 5d) including photoelectric conversion areas (patterned and divided semiconductor layer – 3 – of figure 5d) and a light guide member (fiber optic plate – 1 – of figure 3) for guiding light to be incident on the photoelectric conversion areas included in the photoelectric conversion device, wherein said light guide member (1) includes connection/transmission member (first and second electrodes – 2 and 4, respectively – of figures 1, 5d, and 7a) electrically connected to the photoelectric conversion device (3) so as to transmit electrical signals between the photoelectric conversion device (see column 5, lines 28 – 31) and the light guide member (1), wherein the fiber optic plate (1) and the photoelectric conversion device are bonded together using adhesive (15; see figure 6).

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However, Murakami does not disclose a plurality of photoelectric conversion devices each of which includes a two-dimensional array of photoelectric conversion areas and also do not disclose transmitting an electrical signal between said photoelectric conversion devices.

On the other hand, Meyers also discloses an image input apparatus comprising a photoelectric conversion device. More specifically, Meyers discloses, as shown in figures 1A, 1B, and 6 and as stated in columns 4 (lines 27 – 31 and 49 – 47) and 5 (lines 31 – 40), a plurality of photoelectric conversion devices (sub-group of photodetectors 22) each of which includes a two-dimensional array of photoelectric conversion areas (24) and also discloses transmitting an electrical signal (by means of data bus 50, row decoder 60, and column decoder 62) between said photoelectric conversion devices (24). As stated in column 3 (lines 51 – 55), at the time the invention was made, one with ordinary skill in the art would have been motivated to include a plurality of photoelectric conversion devices and transmitting an electrical signal between said photoelectric conversion devices, as taught by Meyers, in the image input apparatus, disclosed by Murakami, as a means to provide a large high-resolution image input apparatus. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to have a plurality of photoelectric conversion devices and transmitting an electrical signal between said photoelectric conversion devices, as taught by Meyers, in the image input apparatus, disclosed by Murakami.

7. As for **Claims 2 and 7**, Murakami discloses, an apparatus wherein said connection/transmission member includes a terminal and an interconnection first and second electrodes – 2 and 4, respectively – of figures 1, 5d, and 7a).

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8. As for **Claims 3 and 8**, Murakami discloses, an apparatus wherein the electrical signal includes a power supply voltage for driving the photoelectric conversion area (see figure 8 and column 5, lines 28 – 31).

9. As for **Claims 4 and 9**, Murakami discloses, an apparatus wherein the electrical signal includes a control signal for driving the photoelectric conversion area (see figure 8 and column 5, lines 28 – 31).

10. As for **Claims 5 and 10**, Murakami discloses, an apparatus wherein said photoelectric conversion device includes driving circuit which drives the photoelectric conversion area (see column 5, lines 28 – 31).

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure. The following is a brief description of the cited prior art as labeled on form PTO-892.

- **Prior Art B and E** discloses sub-groups of sensor arrays abutted together wherein each of the sub-groups utilizes imbedded shift registers, bond pads, and electrical interconnections.

- **Prior Art C and D** each disclose a plate as a light guiding member so as to guide light from a seamless image plane to separate sub-groups of sensor arrays.

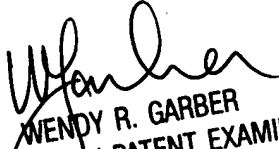
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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM  
July 8, 2004

  
WENDY R. GARBER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600